

PRIMERGY RX300 S5

System configurator and order-information guide

August 2010

Contents

Instructions

Configuration diagram

Configurator

- 0 System software
- I Basic unit
- II Processor
- III Memory
- IV Graphics
- V Accessible drives
- VI Hard disk drives
- VII PCI Controller
- VIII Communication/Network
- IX System Management Products (RemoteView)
- X Miscellaneous
- XI Country specific power cord

Change report



PRIMERGY Server

Instructions

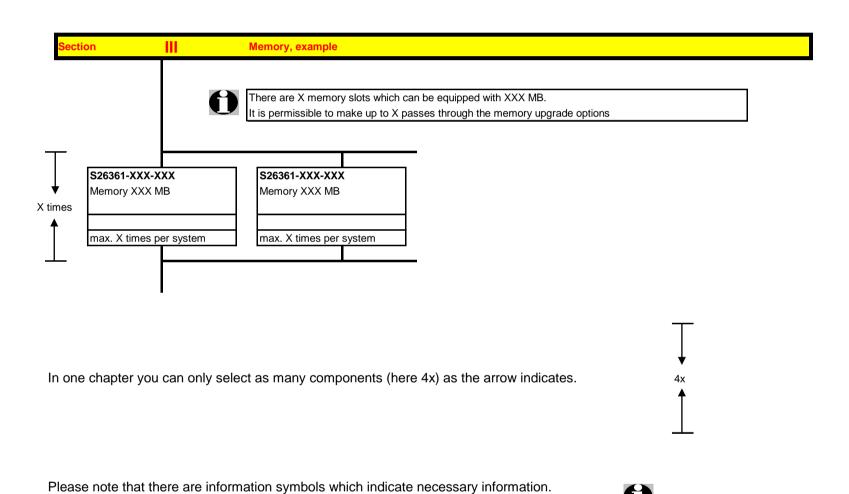
This document contains basic product and configuration information that will enable you to configure your system via PC-/System-Architect.

Only these tools will ensure a fast and proper configuration of your PRIMERGY server or your complete PRIMERGY Rack system.

You can configure your individual PRIMERGY server in order to adjust your specific requirements.

The System configurator is divided into several chapters that are identical to the current price list and PC-/SystemArchitect.

Please follow the lines. If there is a junction, you can choose which way or component you would like to take. Go through the configurator by following the lines from the top to the bottom.



For further information see:

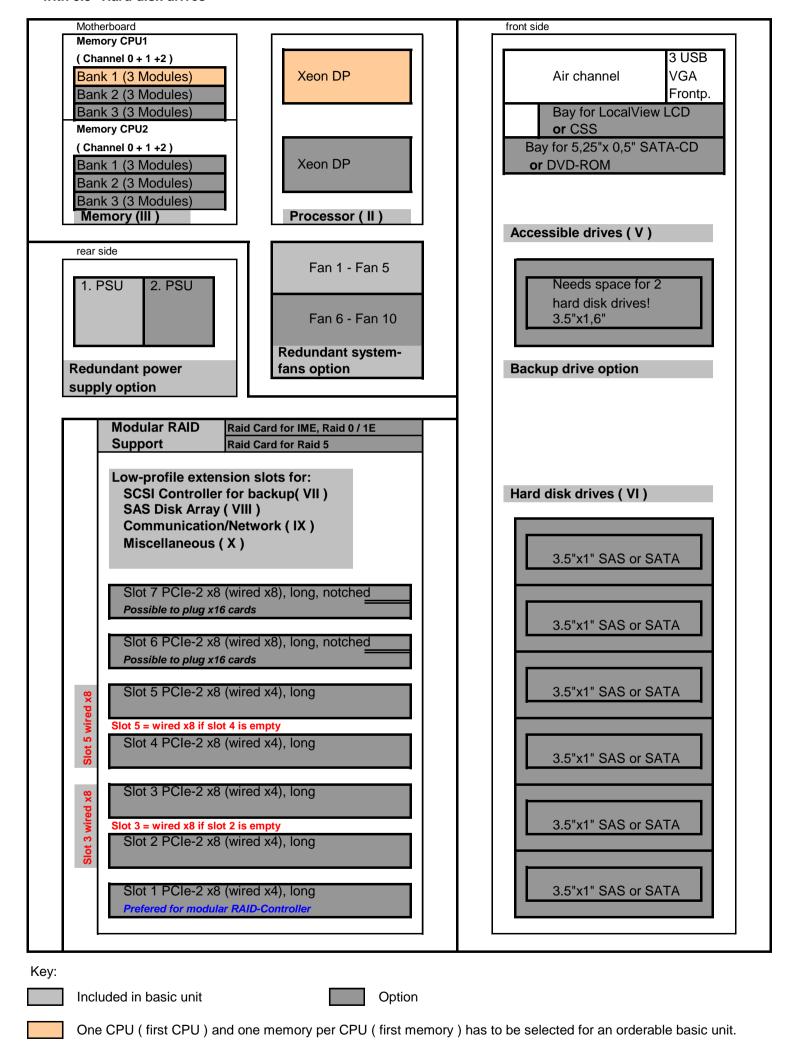
http://ts.fujitsu.com/products/standard_servers/inc (internet)

https://partners.ts.fujitsu.com/com/order-supply/configurators/primergy_config/current/Pages/default.aspx (extranet)

Configuration diagram PRIMERGY RX300 S5

System unit (I)

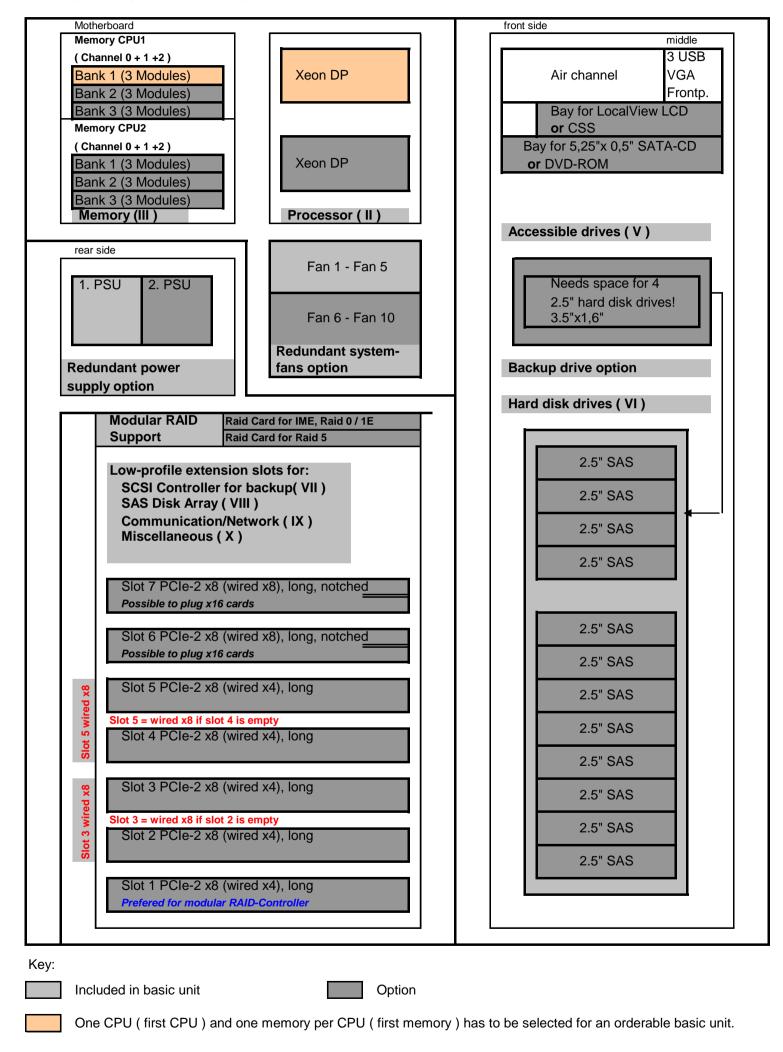
with 3.5" Hard disk drives

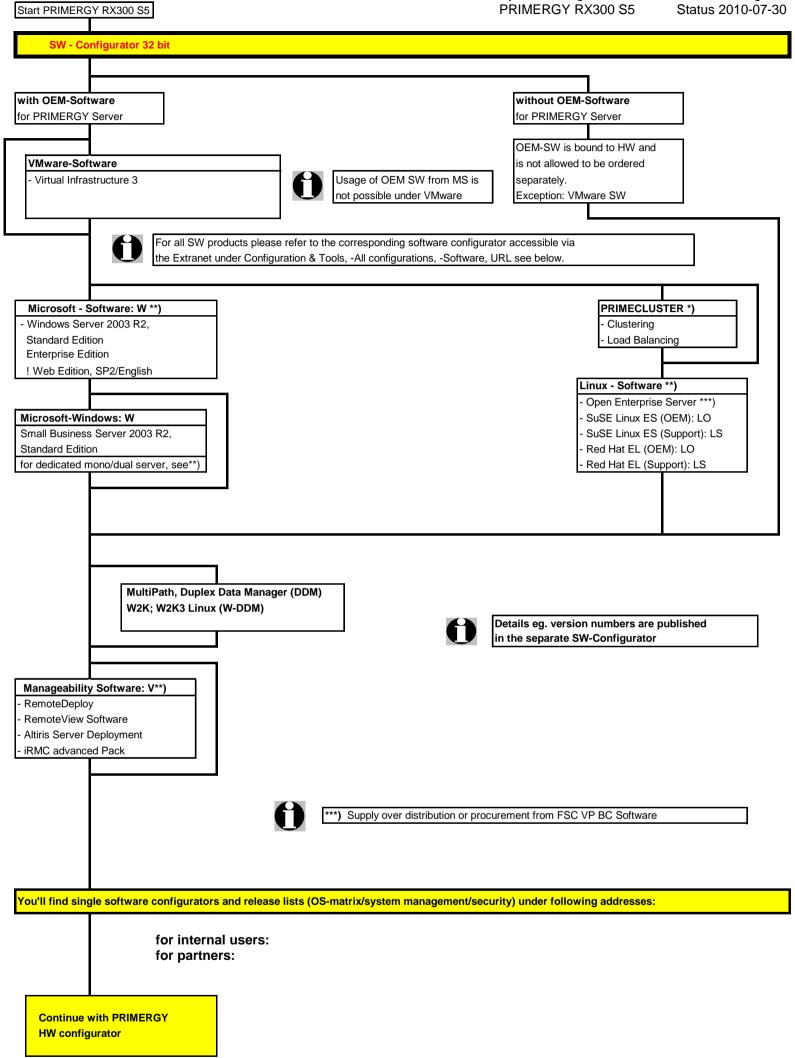


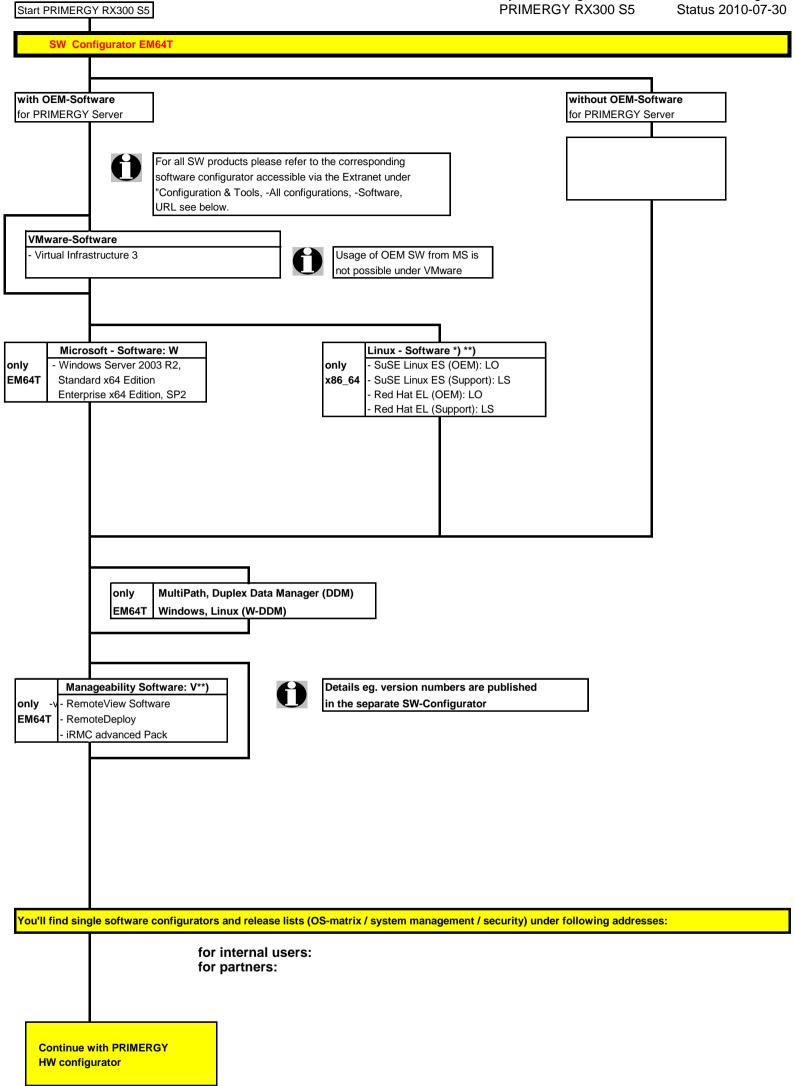
Configuration diagram PRIMERGY RX300 S5

System unit (I)

with 8 or 12 2.5" Hard disk drives







Section

Basic unit



System unit consisting of:

- 2U Housing including one power supply module
 - hot plug Power supply unit with 1 PSU module and power cord rack 4m lenght (can be upgraded with one additional PSU module)
- Fan unit with 5 hot plug system-fans and control logic for 10 fans
 - Additional 5 hot plug system-fans as a redundant fans option (option)
- * SAS Backplane for 6x 3.5" HD or SAS Backplane for 8 or 12x 2.5" HD with cable connection to modular RAID Controller
- -> 3 different basic units for 6x 3.5" HD or 8 or 12x 2.5" HD
- * 9 memory DIMMs per CPU (max 72GB) => Total 18 DIMMs (max 144GB) for two CPU's
- * Drives/Bays
 - 6 bays 1" for hot plug 3.5" HD (1" high) or 8 or 12 bays for hot plug 2.5" HD
 - 1 bay for 3.5" and 1.6" high Backup device, consumes 2 bays for 3.5" HD for basic unit 6x 3.5" HD not possible for basic unit with 12x 2,5" HD
 - 1 bay SATA-CD- or DVD-ROM 0,5" height (option)
 - 1 bay for opt. CSS-Display or LocalView LC-Display

* Integrated ServerView Diagnostics Technology (Diagnosis LED`s) for indication of internal failed components

Systemboard D2619 with:

- * Up to two Xeon Dual Core, Quad-Core or Turbo Quad Core CPU's (Nehalem-EP, LGA 1366 socket) with serial QPI links (Quick Path Interconnect) and three memory channels per CPU First CPU has to be selected for an orderable basic unit,
- * Chipset Intel® 5520 (codenamed Tylersburg-EP or 36D)
- * 7 PCI slots: 2x PCIe-2 x8 (wired x8, notched, possible to plug x16 card)
 - 5x PCle-2 x8 (wired x4)

From 4 PCle-slots each two wired x4 slots can be combined to one wired x8 slot

- * 18 memory slots for max. 144GB RAM DDR3 available
- Memory is divided into 9 DIMMs per CPU (3 channels with 3 slots per channel)
- Max. three 8GB modules or two 8GB / 16GB quad rank modules are possible per channel First Memory (one module) has to be selected for an orderable basic unit per CPU
- Memory upgrade is possible module wise
- Memory mirrroring is supported with 2 identical modules in channel A+B CPU 1 or D+E CPU 2
- Hot Spare Memory is supported with 3 identical modules in channel A+B+C CPU 1 or D+E+F CPU 2
- SDDC (Chipkill) is supported for memory modules,
- * Dual Port 10/100/1000 x4 PCI Express* Gigabit Ethernet Intel LAN controller Zoar on-board
- * iRMC S2 (integrated Remote Management Controller) on-board server management controller with dedicated 10/100 Service LAN-port and integrated graphics controller.

The Service LAN-port can be switched alternatively on standard Gbit LAN port 1

* Graphics Controller integrated in iRMC S2 (integrated Remote Management Controller): 1600x1200x16bpp 60Hz, 1280x1024x16bpp 60Hz, 1024x768x32bpp 75Hz, 800x600x32bpp 85Hz, 640x480x32bpp 85Hz

(1280x1024x24bpp 60Hz only possible if local monitor or remote video redirection is off)

Interfaces at the rear:

- * 1x RS-232-C (serial, 9 pins) (usable for BMC or OS or shared)
- * 1x RS-232-C (serial, 9 pins)
- * 1x VGA (15 pins)
- * 4x USB 2.0 (UHCI) with 480MBit/s, no USB wakeup
- * 2x LAN RJ45, 1x Service-LAN RJ45

Interfaces on the front:

- * 3x USB **2.0** (UHCI) with **480MBit/s**, no USB wakeup
- * 1x VGA (15 pins) as an option

Interfaces internal:

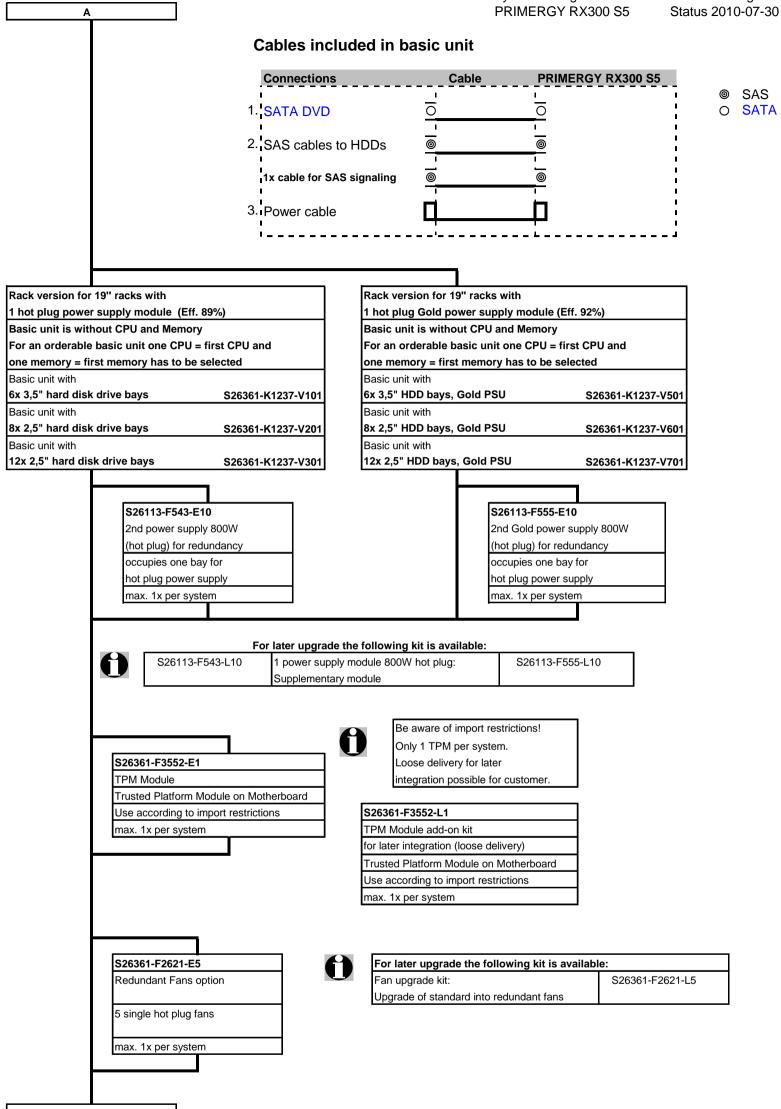
- * 1x released internal USB Interfaces for backup device,
- * 1x USB **2.0** (UHCI) with **480MBit/s** for dongle funcionality, no USB wakeup
- * 2x SATA for internal devices

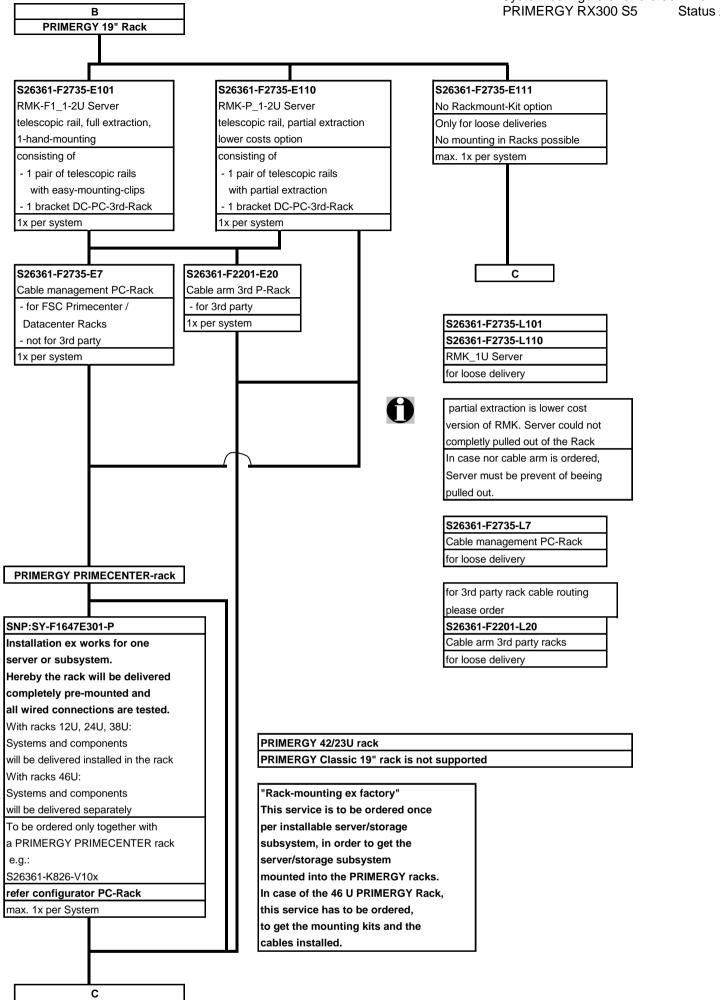
Software:

* ServerView Suite Software package incl. ServerStart, ServerBooks, Management Software and Updates

* Documentation engl. (multilingual on CD)

A







С

There are 2 processor sockets available.

The first socket is always equipped with the first CPU which can be selected via configurator

It is also possible to upgrade a dual-processor system later on with a second CPU

Two processors with different clock frequencies are not possible

A multi-processor operating system is required for a dual-processor system.

Max. two CPU's can be selected per basic unit

One of following CPU's has to be selected as first CPU

for an orderable basic unit

Optional second CPU has to be the same type like the first CPU

Dual-Core CPU with max. DDR3 Bus Speed 800MHz

1x 64-bit Intel Xeon DP (4MB shared TLC = Third Level Cache) and passive heat sink

occupies socket for one CPU

Xeon DP E5502 (1,86GHz/4M/4,8GT) / 80W

S26361-F3277-E186

Quad-Core CPU's with max. DDR3 Bus Speed 800MHz

· 1x 64-bit Intel Xeon DP (4MB shared TLC = Third Level Cache) and passive heat sink

occupies socket for one CPU

Xeon DP E5504 (2.00GHz/4M/4,8GT) / 80W S26361-F3278-E200 Xeon DP E5506 (2.13GHz/4M/4,8GT) / 80W S26361-F3278-E213

Turbo Quad-Core CPU's with max. DDR3 Bus Speed 1066MHz

1x 64-bit Intel Xeon DP (8MB shared TLC = Third Level Cache); Hyper-Threading (HT) and passive heat sink

occupies socket for one CPU

Xeon DP E5520 (2.26GHz/8M/5,86GT) / 80W	S26361-F3279-E226
Xeon DP E5530 (2.40GHz/8M/5,86GT) / 80W	S26361-F3279-E240
Xeon DP E5540 (2.53GHz/8M/5,86GT) / 80W	S26361-F3279-E253

Turbo Quad-Core CPU's with max. DDR3 Bus Speed 1333MHz

1x 64-bit Intel Xeon DP (8MB shared TLC = Third Level Cache); Hyper-Threading (HT) and passive heat sink

occupies socket for one CPU

Xeon DP X5550 (2.66GHz/8M/6,4GT) / 95W	S26361-F3280-E267
Xeon DP X5560 (2.80GHz/8M/6,4GT) / 95W	S26361-F3280-E280
Xeon DP X5570 (2.93GHz/8M/6,4GT) / 95W	S26361-F3280-E293
Xeon DP W5590 (3.33GHz/8M/6,4GT) / 130W	S26361-F3337-E333

Low Voltage Quad-Core CPU with max. 800MHz DDR3 speed (4.8GT/s)

1x 64-bit Intel Xeon DP (4MB shared TLC = Third Level Cache) and passive heat sink

occupies socket for one CPU

Xeon LV DP L5506 (2,13GHz/4M/4,8GT) / 60W S26361-F3281-E213 Low Voltage Turbo Quad-Core CPU's with max. DDR3 Bus Speed 1066MHz

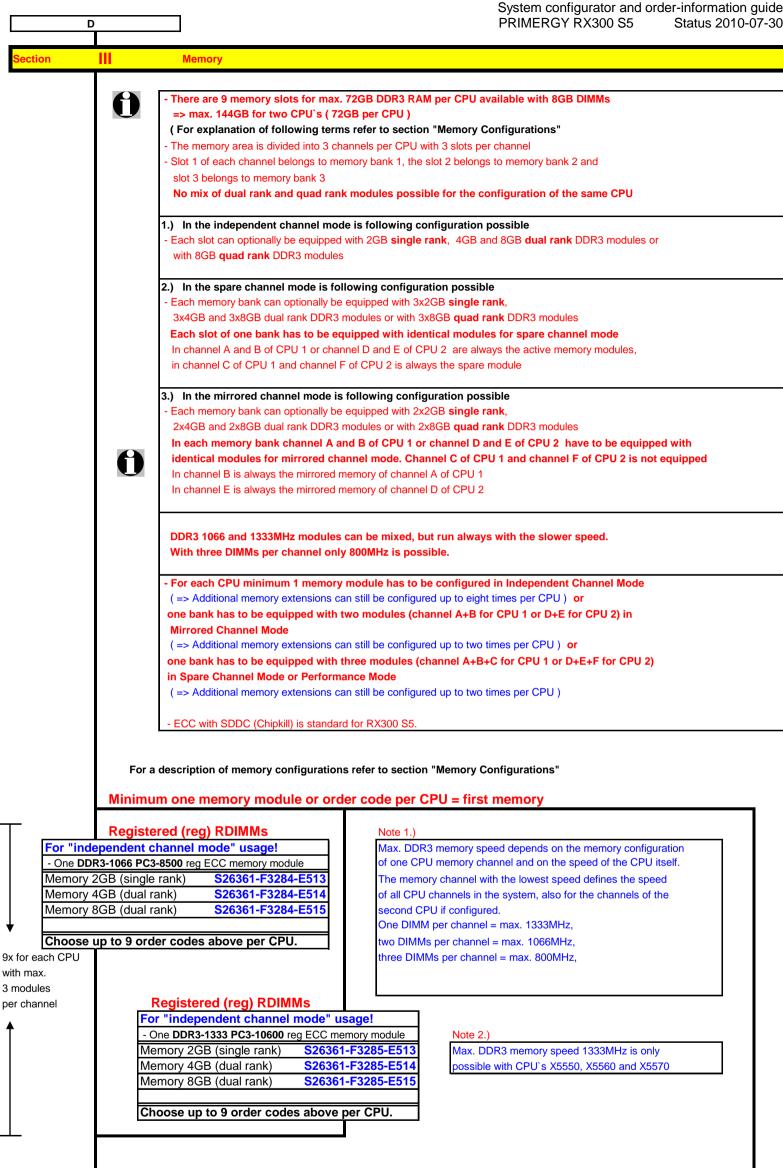
- 1x 64-bit Intel Xeon DP (8MB shared TLC = Third Level Cache); Hyper-Threading (HT)

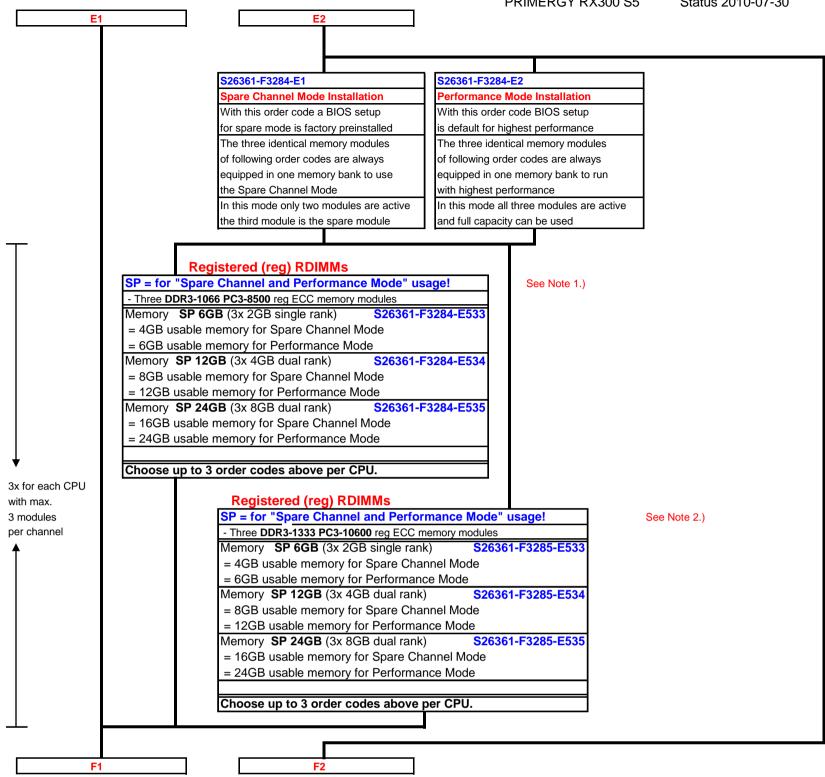
and passive heat sink

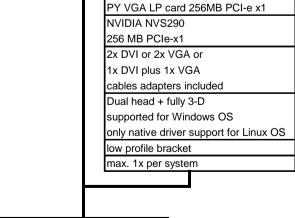
D

occupies socket for one CPU Xeon LV DP L5520 (2,26GHz/8M/5,86GT) / 60W S26361-F3281-E226 Xeon LV DP L5530 (2,40GHz/8M/5,86GT) / 60W S26361-F3281-E240 Note: Max. DDR3 Bus Speed depends on:

- max. DDR3 Bus Speed from the CPU and
- max. DDR3 Memory Speed and
- max. memory modules on one memory channel







This PCIe-x1 card can also be installed in any PCIe-x4, x8 or x16 slot.

Only one card per server is allowed.

PY VGA card must be installed in slot 4

S26361-F2748-L633
PY VGA LP card 256MB PCI-e x1
for loose delivery

Memory Configuration PRIMERGY RX300 S5

Each CPU offers 9 Slots for DDR3 Memory Modules organised in 3 Banks and 3 Channels.

If you need more than 9 Slots you have to configure the 2nd CPU.

Depending on the amount of memory configured you can decide between 4 basic modes of operation (see explanation below).

For RX300 S5 only registered DDR3 memory modules (RDIMM) are available.

Mode	Configuration	RDIMM	Application
chip kill support	any	yes	detect multi-bit errors
Independant Channel Mode	1, 2 or 3 Modules per Bank x	Х	offers max. flexibility, upgradeability, capacity use UDIMM modules for lowest cost
Mirrored Channel Mode	2 identical Modules / Bank **)	Х	offers maximum security
Performance Mode *)	3 identical Modules / Bank **)	Х	offers maximum performance and capacity
Spare Channel Mode *)	3 identical Modules / Bank **)	Х	balances security and capacity

^{*) =} Performance Mode and Spare mode use different BIOS settings.

Configuration hints:

- The memory sockets on the systemboard offer a color coding:

Bank II black sockets
Bank III blue sockets
Bank III green sockets

- A so called Bank consits of 1 memory module on every Channel available on one CPU (examples see below)

Bank I on CPU 1

Bank II on CPU 1

Bank III on CPU 1

Bank III on CPU 1

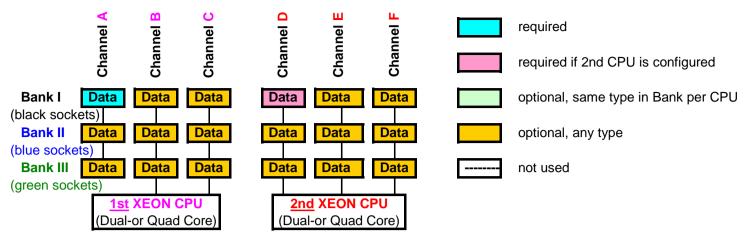
Bank III on CPU 2

- See below and next page for a detailed descriptions of the memory configuration supported.

^{**) =} technically possible but no Order Numbers available, use at your own risk

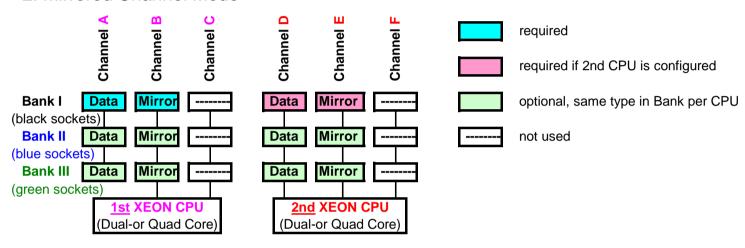
x =order codes available

Independent Channel Mode



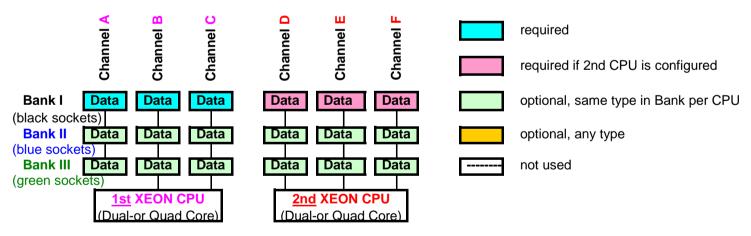
Independent Channel Mode allows all channels to be populated in any order Can run with differently rated DIMMs and use the settings of the slowest DIMM within a channel

2. Mirrored Channel Mode



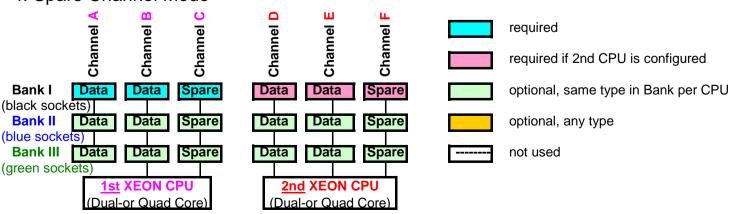
Mirrored Channel Mode requires identical modules on channel A and B (1st CPU) or channel D and E (2nd CPU) 50% of the capacity is used for the mirror => the available memory for applications is only half of the installed memory Channel C (1st CPU) or channel F (2nd CPU) are not usable in Mirrored Channel Mode

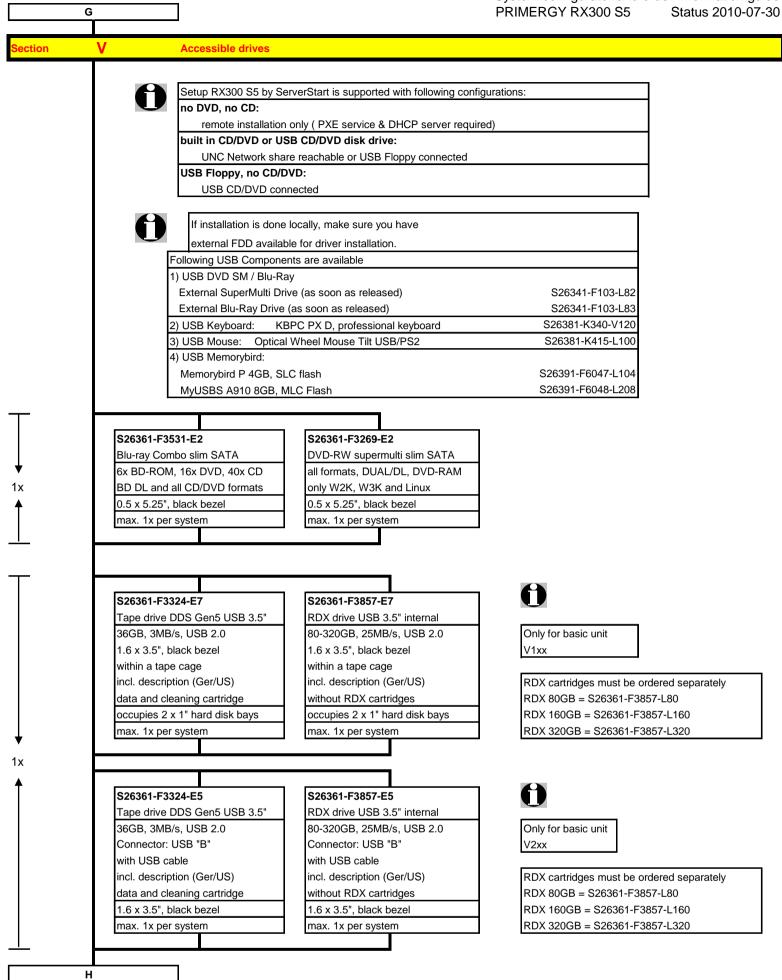
3. Performance Channel Mode



Performance Channel Mode requires identical modules on all channels of each Bank per CPU







BC SATA

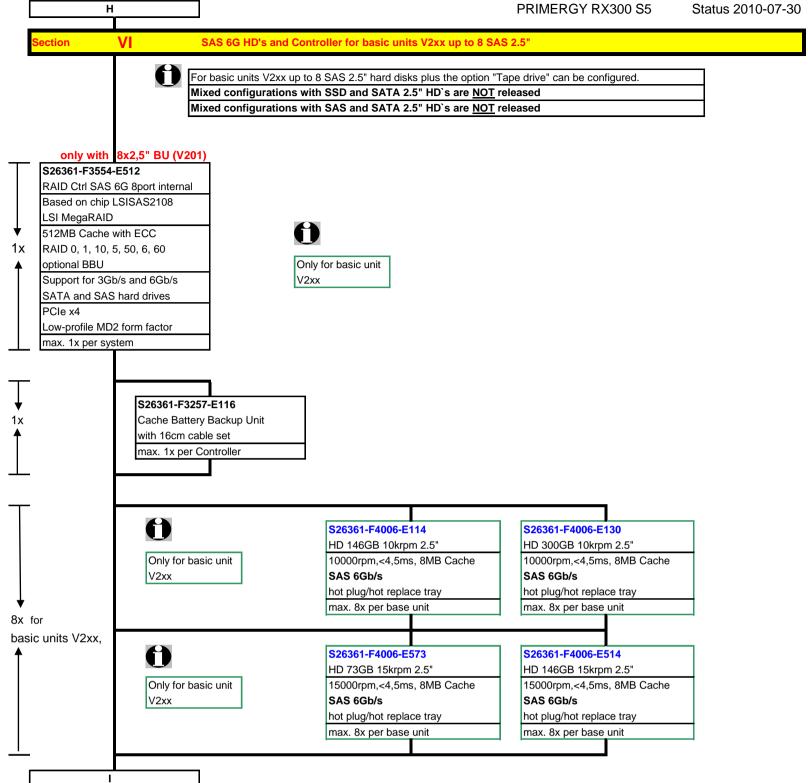
hot plug/hot replace tray

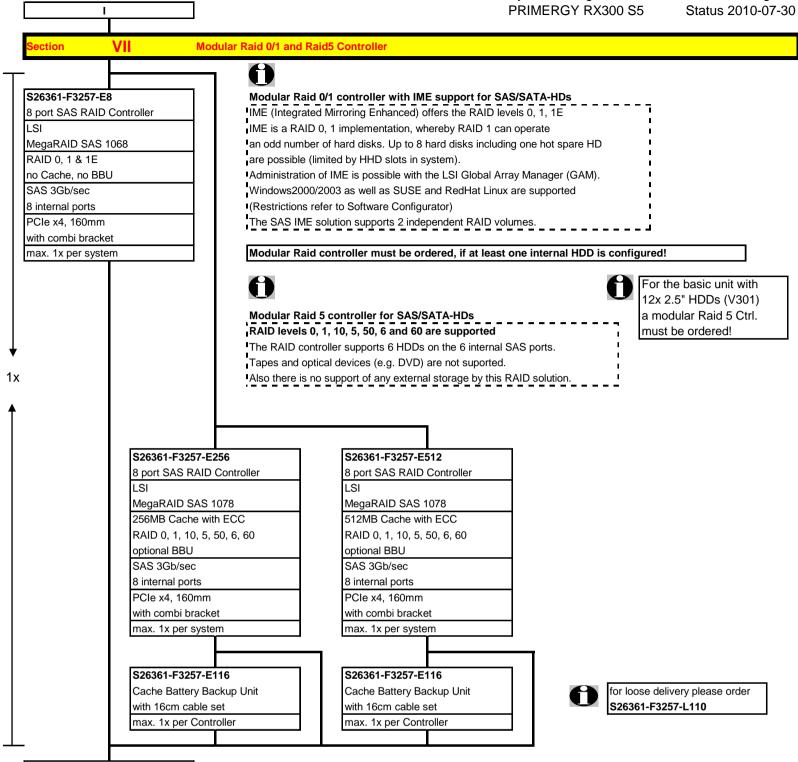
max. 8x or 12x per base unit

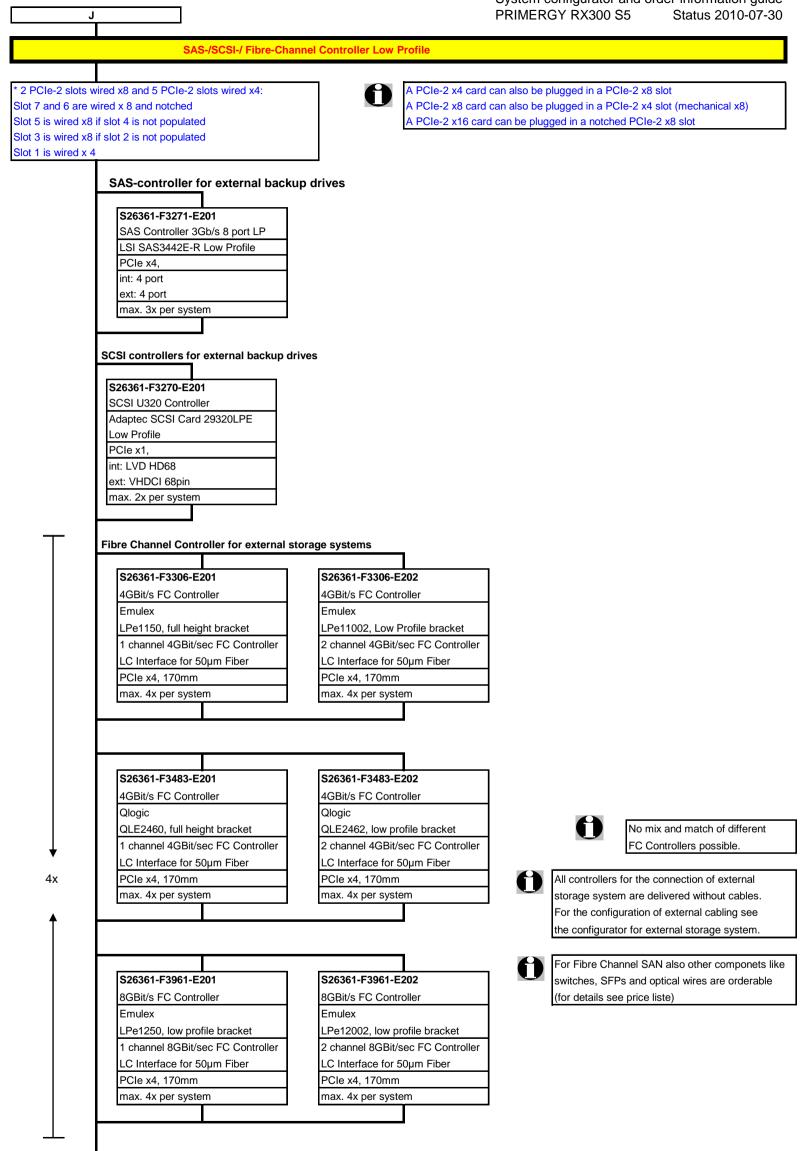
BC SATA

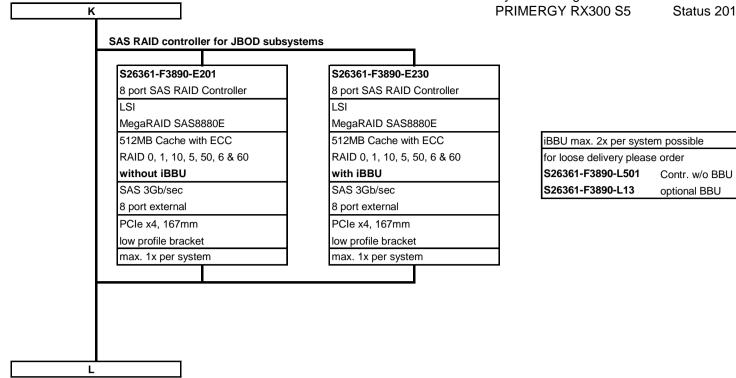
hot plug/hot replace tray

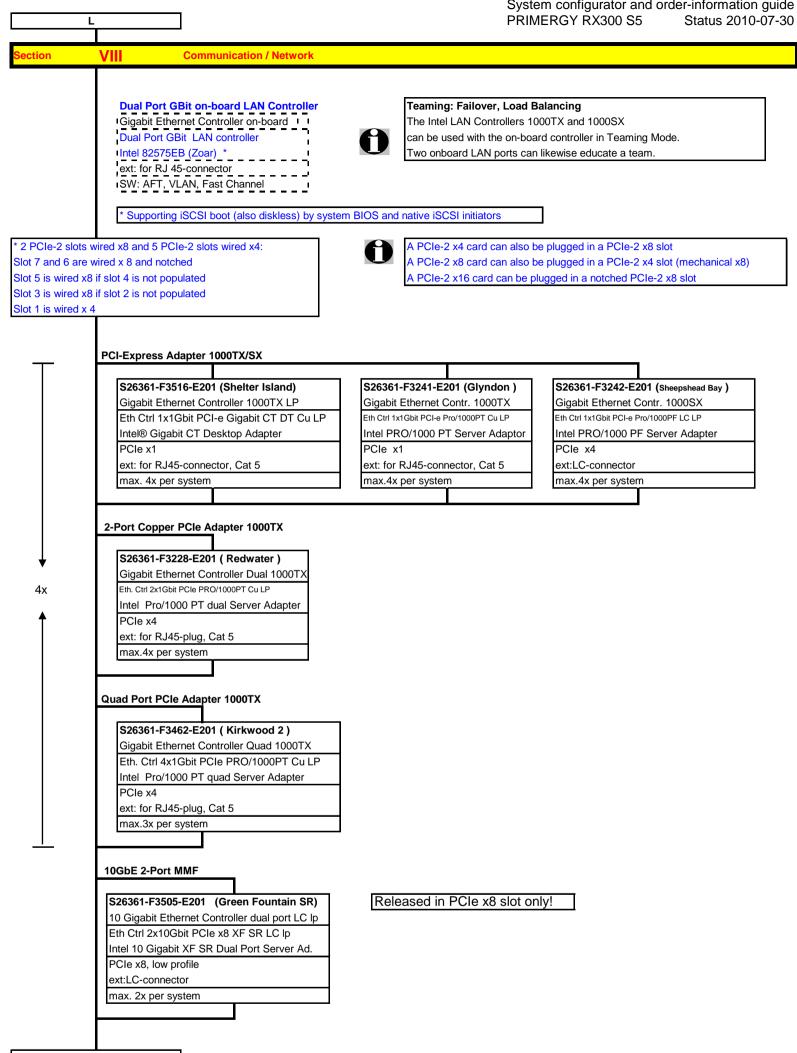
max. 8x or 12x per base unit

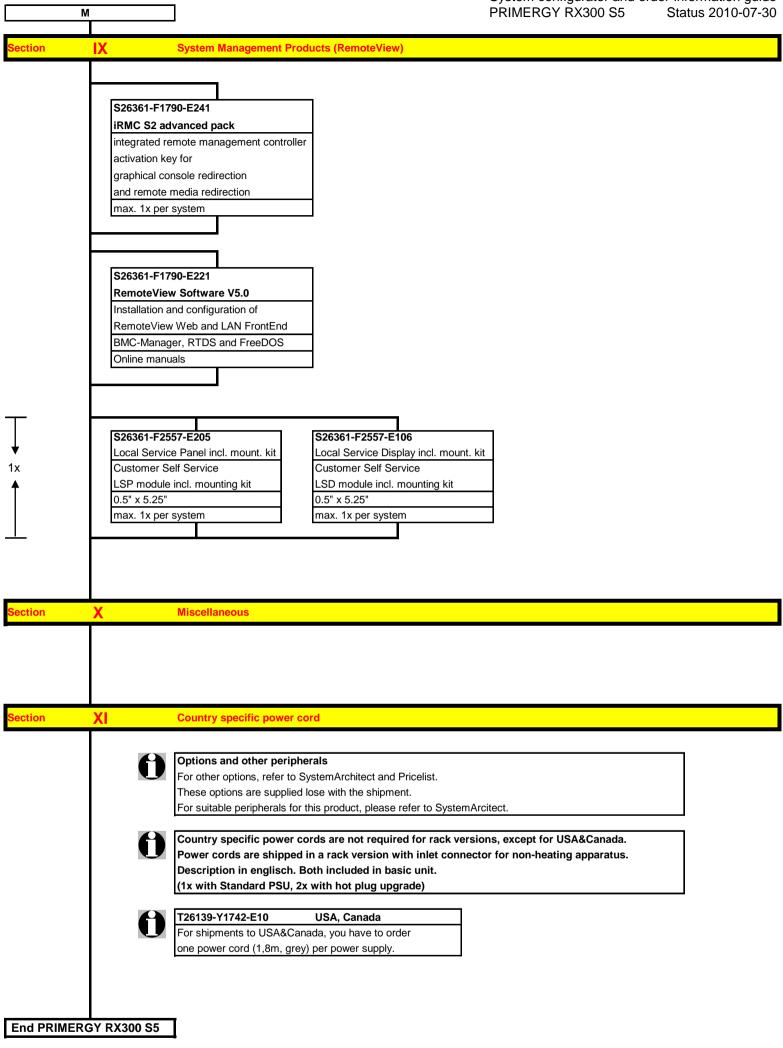












Change Report

Date	Order number	Changes
	T	
2010-04-06	S26361-F3601-E160/500	new BC-SATA HD drives - now available
2009-10-01	S26361-F3299-E32/64	new SSD HD drives - as soon as available
2009-09-01	S26361-F3554-E/L512	New SAS Modular RAID Controller 6Gb/s - now available
2009-09-01	S26361-F4006-E*	New SAS HDDs 6Gb/s - now available
2009-08-01	S26361-F3324-E7	New Tape drive DDS 5 USB - now available
2009-08-01	S26361-F3857-E7	New Tape drive RDX USB - now available
2009-06-30	S26113-F555-E10	New 2nd Gold PSU
2009-06-30	S26361-K1237-V701	New base unit with Gold PSU
2009-06-30	S26361-K1237-V601	New base unit with Gold PSU
2009-06-30	S26361-K1237-V501	New base unit with Gold PSU
2009-06-17	S26361-F2748-E633	New graphics card released
2009-03-30		First release